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Abstract

Organizaticnal procedures and principles underlying a high schccl reading program are presented. The proposed develcpmental reading prcgram invclves creating positive attitudes toward reading and directing growth in vocabulary, word fcrm mastery, all phases cf ccmprehension and interpretaticn, reading speed, and oral reading. Practical application cf reading skills in the content area subjects is stressed, and the need fcr tctal teacher invclvement in the reading prcgram is pointed cut. Suggestions fcr apprcpriate remedial reading services are listed. Special emphasis is placed on evaluaticn of the total reading prcgram and cn the need fcr preparation of reading teachers. References are included. (RT)

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WHAT RESEARCH SAYS TO THE TEACHER

11

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Reading in the High School

Leo C. Fay

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Reading in the High School

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EXPLANATION

The author has attempted to draw from research material on reading in the high school the items which promise to be of most help to classroom teachers. It is not a complete summary of research. In some instances opinion has been given which is believed to represent the views of most experts. The interpretation and recommendations are those which the author, Leo C. Fay of Indiana University, believes to be soundly supported by research. His original manuscript was reviewed by Marvin D. Glock, University Testing and Service Bureau of Cornell University; and William Sheldon, Syracuse University. Changes were made by the author on the basis of the suggestions of the reviewers and of the staff of the NEA Research Division.

READING IN THE HIGH SCHOOL

CAN THEY READ OR CAN'T THEY?

The mid-twentieth century is a period of insecurity and criticism. The faults and very human weaknesses of our leaders, our basic institutions, and our youth are subject to almost continuous attack.

What the Critics Say

As part of this general condition the school achievement of youth today has strongly been criticized. In the daily press, in books and magazines, and even among professional teachers, critics of today's youth and of modern education say: Young people today cannot read. Either implied or more often directly stated is the idea that this condition is recent—that the youth of earlier generations read significantly better than presentday young people.

Others say: Young people today do not read. It naturally follows that a person who cannot read, does not read. Furthermore, in the minds of some, today's youth has been seduced from more worthwhile and profitable activities by TV, comic books, and overdeveloped extracurriculum programs.

Many imply that these conditions are unique to American youth. They give the impression that young people elsewhere have no problems in learning to read. We hear that by the time European youth leave their secondary schools they are two years ahead of American youth. Remedial reading is no problem elsewhere, but, because of modern technics of teaching children to read, America has harvested a crop of poor readers.

The Evidence Is

When one searches out the objectively gathered evidence concerning the charges of the critics, one finds a highly consistent body of facts that will lead him to this conclusion: Today's young people can and do read. Comparisons of today's youth with those of earlier generations consistently indicate that today's young

people read at least as well as their parents and grandparents did when they were in school. This is so in spite of a tremendous increase in the school's holding power, which is today at least seven times greater than that of but two generations ago. Furthermore, library circulation and the sale of books, magazines, and newspapers give eloquent testimony to the reading habits of this generation.

Retardation in reading is related to people in general and not Americans in particular. Remedial reading services are found in Norway, Sweden, and England—countries that enjoy exceptionally high literacy standards. Weakness is revealed as demands increase. An awareness of the reading problems of our young people and attempts to remedy these problems are a tribute to, rather than an indictment of, American educational policies. Comparisons of the products of American schools with those of Europe must take into account differences in goals, selection of students, and organization of the schools. Schools in other countries have their critics, too.

There are no panaceas. The impression has been given that the simple-minded following of some formula or system of teaching reading will guarantee success for all children. Such thinking runs counter to the nature of children, the complexity of the reading process, and the wealth of research on how children learn. Believing that the answer to the many problems that parents and teachers face in teaching children to read can be reduced to a few how-to-do-it lessons is to indulge in dangerous wishful thinking. The evidence is clear that different approaches will be necessary for different children and that different children will need strikingly different periods of time before they develop competency in their reading. The first pamphlet in this series, *Teaching Reading* (by Gates) is an excellent source for reviewing what a good reading program involves.

Judgments must be tempered in view of changes that have taken place. When looking at the evidence, it is important to remember that the highly significant changes complicate interpretation of present conditions. School policies are such that progress thru school is much more orderly than was true previously, with the result that the elementary grades are not filled with overage children. This, coupled with the increased holding power

of the school, has resulted in very real changes in the high-school population. Young people who previously left school in Grades IV to VI are now found in Grades IX and X. Economic and technical changes have resulted in demands for compulsory school attendance and a general increase in educational accomplishment. All these changes have implications not only for a program of skills, such as reading, but for the entire school curriculum, the organization of learning activities, and for an attack on the fundamental question of what education in a democracy should accomplish.

High-school students have changed--in numbers and in interests

Rather than put the schools on the defensive, it is hoped that modern day critics will stimulate a more intelligent and creative attack on these fundamental questions.

WHAT DOES READING INVOLVE FOR MODERN YOUTH?

How reading is defined depends to a large degree upon how it is to be used. The medieval scholar who had access to a limited number of books and who would have as long as a year to "read" a single text would be faced with problems quite different from today's youth who may have to make a weekly choice from among hundreds of books and read at least parts of many of them. To be at all adequately prepared to face the demands on his reading power, the young person today must develop a high level of efficiency in the many different aspects of reading.

Smooth Functioning Mechanics

Hidden in the reading of a person with good general fluency is a large number of mechanically applied skills. The degree to which these skills operate automatically with high accuracy is one of the best indicators of a reader's over-all efficiency. Involved are:

1. All the skills used in the perception of word forms—the word form itself, its sound structure, its pronunciation and meaning structure, clever use of context, and, for independence, the dictionary pronunciation key.
2. Those skills that result in a rapid and flexible reading—consistent left to right progression, reading by thought units rather than word by word, and the ability to speed up or go more slowly in terms of the nature of the material and the reader's purpose.
3. Those skills that result in an accurate reading of the text—to insure that the text is not distorted by changing, adding, or dropping words. Some of the more recently developed interpretation tests indicate that this is a problem for many high-school and college readers.

Growing Creativity

Fortunately reading is more than the unconscious application of mechanical skills. The spice of its appeal is that it serves as a stimulant to a person's thinking. It frees man from many of the limitations of time and space and may, if wisely engaged in, create an expanding horizon for him. This, of course, does not just happen but is dependent upon a growing body of skills and abilities in such things as:

1. Gaining a literal understanding of what has been read. If thought is present, ideas cannot be helter-skelter but must be related. These relationships are of many kinds—cause and effect, general-specific, time, place—and are basic to the organization of the thought content in all areas. As the reader grows in these abilities, the fullness of his understanding of what the author has said increases.
2. Reading critically or reacting to the author and what he has said. Involved are subtle skills of logical analysis and interpretation. These skills are among the most difficult to develop because they involve mastery of emotions and tendencies to make snap judgments. Never to be forgotten by the teacher is that these abilities are fundamental to the intelligent exercise of citizenship in our society. Wherever a person has the privilege of exercising freedom of choice, these skills and abilities are brought to play.

3. Selectivity in terms of purpose. Being able to adjust thinking to the purpose for reading a passage is a mark of the mature reader. Many different comprehension skills—predicting outcomes, locating facts, getting impressions, following directions, noting details—are involved. These skills will have their applications in different ways as the student moves from one content area to another. In typical high-school groups a sizable proportion of students will approach reading for different purposes in exactly the same way and at exactly the same rate. Such reading tends to be slow and grossly inefficient for many reading tasks. Efficient reading is more than a mechanical process. The good reader reads for some purpose and adjusts both his thinking and the nature of his reading accordingly.

4. Use of one's self. The reader cannot be divorced from the process, and how well he understands and uses himself will have a strong bearing on his effective application of reading skills. The mature reader will be characterized by such abilities as being able to free himself from distractions, starting tasks without wasting time, seeing them thru to completion, budgeting his time wisely, and understanding his strengths and weaknesses and adjusting his goals accordingly.

Growing Craftsmanship

Because reading is the means to an end, it is often referred to as a tool. This implies the need for a growing craftsmanship in its application to the content with which it is used. It has been demonstrated that, while there is much that is common in reading different contents there nevertheless remain problems that are unique for the different content areas and different study tasks.

The reader who is developing a true craftsmanship in his use of reading for learning demonstrates a growing ability to:

1. Make effective use of the format and organization of materials. The able reader goes well beyond the words of the text in using reading materials effectively. The various aids to a complete understanding are understood and used by him. The copyright page with its information concerning date of publication, author, and publisher, the preface and table of contents with their information concerning the author's point of view and his over-all organization of the material, the organization and way of writing the chapters and sections of the book, the aids to meaning such as pictures, charts, graphs, and summaries, the bibliographies as sources of additional information, and the index as an aid to rapid location of information are all part of this complex of skills. In its broader application this area of skills takes the reader beyond a given material to the effective use of the entire library.
2. Handle information effectively. Involved are the complex of skills that make for the efficient location, selection, organization, and retention of information.

Personal and Social Development

In the day-by-day task of teaching mathematics or literature or science it is easily possible to lose sight of the role that reading may play in the personal and social development of young people. In fact, the current emphasis on factual content has fostered a neglect of this phase of reading for many students. While it is true that skill in any phase of reading will have its effect, at least indirectly, upon a person's personal and social development, of concern here are leisure reading and oral reading.

As a people we are in the midst of profound changes in our way of living, many of which carry important implications for the school program. Increased leisure results in the need for increased skill in the use of leisure. For continuous development after the period of formal education, basic habits of turning to books and to reading should be well established before young people leave school. For boys, especially, much of this reading should be encouraged along nonfiction lines.

A mark of a truly accomplished reader is the ability to interpret the printed page to others. Studies of comparative accomplishments are rather consistent in pointing out that today's youth is significantly handicapped in oral interpretative reading skills

when compared with earlier generations. Interestingly enough, teacher indifference is often a significant reason for this condition.

If the material outlined here is accurate in its portrayal of the reading demands made on youth today, the high school faces a real challenge in helping young people become as accomplished as possible in this highly important skill area.

ORGANIZATION OF THE HIGH-SCHOOL READING PROGRAM

What is the high school to do? Is it necessary to add reading instruction to the heavy secondary curriculum? Should all high-school students receive basic instruction in reading, or is the high school's responsibility adequately met by helping retarded readers? These and many other questions are raised by school people when they study the "reading problem" at the secondary level.

Is It Worthwhile?

Unless it can be demonstrated that the direct teaching of reading results in significantly better readers, there is little reason in developing a specific program in reading at the secondary level. Experimentation with both high-school and college students indicates that reading is much like playing golf—a "pro" can help you learn to play the game more effectively. It is not only a matter of making the poor good, but, as is often demonstrated, of making the good better. The evidence is quite clear that the worthwhileness of a high-school reading program for all youth can hardly be challenged.

The Nature of the Program

Much has been written about the developmental and the remedial approaches to reading instruction both at the elementary and at the secondary levels. The developmental program is built upon the premise that a growing maturity in reading is achieved thru a continuous growth in the basic skill areas of reading. Reading from level to level is not different because different skills are

essential to success at a given level but is different because of different levels of maturity required in handling the various skills areas. Thus, the skills involved in reading are essentially the same whether second-grade or twelfth-grade. However, the maturity in the use of these skills is very different from Grades II to XII. Instruction following this line of reasoning is concerned with the continuous growth of students. Regardless of what a student can now do, there always remains room for improvement. Direct guidance for all students ought to be provided as a part of the school's basic curriculum.

The remedial approach stems from a different point of view. If a student's reading achievement falls significantly below his ability, he is judged to be retarded and is given special help. Such a program is usually restricted to helping the obviously retarded reader and could better be considered a school service rather than a basic part of the school curriculum.

Because of the evidence already mentioned concerning the results of high-school reading programs, it is apparent that best results are obtained by including both the developmental and the remedial phases—the developmental as a means of making better readers of all students and the remedial as a service for those who need specialized help.

All Teachers Become Involved

It has been estimated that over 75 percent of all that is learned at the secondary level is acquired thru reading. In view of this a reading program concerned only with a basic developmental and a remedial phase would be narrow. Experimentation has consistently indicated that a total program in reading must eventually involve all teachers who have their students use printed material and not merely those responsible for the period called reading. Included with the content teacher would be the librarian as an essential part of the total school's approach to reading.

Definite Responsibility Is Desirable

In organizing the high-school program it has been found advisable to set definite responsibility for teaching a basic program.

While the often expressed goal, "Every teacher a reading teacher," is certainly desirable, it is also true that everyone's responsibility can soon become no one's. In most cases this responsibility has been made part of the English program where a special reading course is developed or reading becomes part of the existing English courses. In smaller schools it might be well for the principal to survey the capabilities, training, and interests of his staff. It has been reported that teachers of science, social studies, and other areas have been responsible for basic reading programs.

Responsibility for developing skill in content reading is best centered in the content teachers.

BASIC PRINCIPLES UNDERLYING THE INSTRUCTIONAL PROGRAM

Underlying the instructional program in reading are a number of basic principles: individual differences of students, systematization of approach, reading readiness, and teacher experimentation.

They Are Different

Somehow the problem of the wide range of ability in the typical classroom must be faced. From the days of Confucius who wrote that the greatest problem facing the teacher was the "different mental endowments" of his students to the present time, the fact that they are different is one of the teacher's greatest challenges. While many different approaches have been and are being made to meet this challenge, it appears that in most cases grouping within heterogeneously organized classrooms best meets the problem. For the most part the adjustments made can be classified into three main types:

1. Differentiate assignments.
2. Provide materials that cover a range of reading abilities.
3. Vary teaching method in terms of the learning characteristics of the students.

Chance Is Not Reliable

Should instruction be systematically directed or be attempted indirectly thru an incidental approach?

While it is important for a teacher to be an opportunist and willing to take advantage of opportunities to teach where interest is strong and the situation most appropriate, it is also true that no teacher dare wait for such opportunities to present themselves before teaching particular skills. Under such a program it would be difficult to avoid shortchanging or even skipping some skills while overemphasizing other skills. For most schools and most teachers it is better to take a systematic approach to the reading program.

One of the Language Arts

If a reader reacts to or shares what he reads, he must of necessity make use of other language skills. Each of the language arts is part of the larger process of communication. In spite of this there has been a tendency to look upon each of them as unique, to compartmentalize them, and hence to ignore the interrelationships that could be used to good advantage in instruction. For example, recent critical observers have pointed out that American schools take too little advantage of the relationships between writing and reading. A characteristic of a good program in reading would be an emphasis on the common elements and the interrelating functions of the language arts.

Readiness Essential Here, Too

When reading and readiness are mentioned together, the first thought brought to mind is a group of first-grade children getting ready to start beginning reading. Actually readiness is a practical part of all phases of reading instruction at all levels. As skill is built, interest aroused, and background information strengthened, a student becomes increasingly more ready to go on to more advanced levels. The realistic teacher, in turn, realizes that certain skills, abilities, attitudes, and information are needed for a particular task and adjusts instruction to differences in readiness accordingly. Readiness has implications for the use of reading skills in content areas as well as for the basic reading program.

The Teacher's Readiness

When one thoroly investigates the role of readiness in reading instruction, he becomes struck with the realization that the teacher's readiness is as significant as that of the students. For the teacher this means essentially three things: first, knowing the capabilities and achievements of one's students; second, knowing what is demanded in reading a particular content; and third, knowing what specific selections will involve in the way of background information and reading skills. When reading a text or a reference, the teacher then is concerned not only with the information or the content it contains but is also interested in such things as the background the author assumes the reader possesses in order to derive understanding from the passage, the vocabulary problems his students might encounter, and the aids to understanding found in the reading material. These and other factors are involved in the problem of teacher readiness.

The Teacher Is an Experimenter

Because he is only human, no matter how good the teacher, there will always be room for improvement. Experimental studies involving individual teachers as well as large groups of teachers show that it is only reasonable for them to expect to find ways of increasing their effectiveness. Teaching, it seems, is just as developmental in nature as reading. The implication of this for the classroom teacher is rather obvious. He must continually question his results and attempt to find the means to do the job better the "next time." Here is the source for one of the greater satisfactions of teaching. Teachers should be helped to see basic problems and questions. Following this, they should be encouraged to find solutions by "trying their ideas" in a controlled way. This action type research is rewarding in many ways. It almost always results in significant growth for both students and teacher.

THE DEVELOPMENTAL PROGRAM

It has been suggested that the high school provide basic instruction in reading either in a course organized for that purpose

or in units in existing courses. Regardless of how this instruction is organized, certain basic "foundations" should be included in this part of the program.

A Good Attitude

Many high-school students develop poor attitudes about school in general and about reading in particular. This is complicated further by the extra demands for time brought about by heavily developed extracurriculum activities and the TV viewing habits of the typical American family. As the teacher becomes concerned about this, he asks himself, "How can I help these people when they don't want to learn? They dislike reading and don't hesitate to say so. How can I teach them?" Indeed, how can the teacher cope with these questions? To be successful, a basic program in reading must be concerned with both attitudes and interests. From the outset it should be emphasized that the responsibility is not that of the school alone. Unless the home sets value on education, on respect for work, and on an environment that accentuates the positive values to be derived from reading, anything the school attempts will almost assuredly be hampered.

Student attitudes and interests-- are they hindrances or helps?

There are factors that tend to result in building favorable attitudes toward reading. When put into the form of questions that teachers might raise, they are useful as a means of self-evaluation. It would be well to ask:

1. Do I adjust materials and assignments so that students are not asked to do the impossible?

2. Do I know the interests, needs, and abilities of my students so that I can select and assign materials accordingly?
3. Do I study my students' reading habits and abilities so that I can give them specific help?
4. Do I help my students develop real and vital purposes for their reading?
5. Am I enthusiastic about my work? Do I have faith in and reflect my belief in my students?
6. Are working and learning in my classroom enjoyable experiences?
7. Are my students developing a sense of accomplishment and a respect for learning?

While attitude and interest are quite intangible, they often are a basic cause of frustration to the sincere teacher. This fundamental challenge may be met in the following ways:

1. By having a positive attitude toward students and instruction. The positive, enthusiastic, creative teacher inspires students to better achievement.
2. By being an aggressive salesman. The successful salesman knows thoroly what he wants to sell. In this case, know the process of reading and the technics for helping those who need help.
3. By knowing and securing the best materials possible. From the research on the reading interests of young people we know the wide variation in appeal of different materials. It only makes good sense to take advantage of this fact.
4. By knowing the learners as well as possible. While the task of really knowing the large number of students a high-school teacher must work with is tremendous, the evidence is clear that individualized concern and attention are pretty difficult for the student to ignore.

Vocabulary Development

Reading as one of the means of communication uses words in the exchange of ideas. With the other means of communication it shares a concern for word meanings, and unique to itself is the problem of word recognition. To be at all effective in communication, the high-school student needs an extensive meaning vocabulary. As the student's experiences increase, he finds a need for enriching the meanings of words he thought he already knew. He also finds a constantly growing need for knowing more and more words.

In general, the best way to increase vocabulary is to have as much contact with words thru extensive reading and listening as

possible. It would be unfortunate to go no further, however, for it is a rare student who does not benefit from more direct attacks on words and their meanings.

It would be difficult to overemphasize the importance of vocabulary development. Size and nature of vocabulary remain major problems in the reading of textbooks. Pupils with larger vocabularies tend to attain higher achievement in school. Success in life appears to be positively related to the size and nature of vocabulary. It would seem on the basis of all this that vocabulary development would receive extensive attention in our high-school programs. Actually a recent survey showed that the amount of space devoted to vocabulary development in 72 junior high-school English books was less than 2.2 percent of the total content. It is hoped that the actual instructional program is more generous in its attention to this significant area than this study would imply.

While meaningless word drill is of questionable value, there is much to be gained from a direct, systematic study of words. This study should include:

1. The study of dictionary skills. The dictionary is the reader's key to independence and should, therefore, be an essential part of the high-school reading program.

2. The study of word structure: prefix, suffix, root, and word origin. The high-school reader finds that Latin and Greek roots, prefixes, and suffixes are combined in a variety of ways to form new words. As these elements tend to have definite meanings, they serve as a real aid in arriving at correct understandings when combined into different word forms. A major difficulty, of course, especially with the common prefixes, is that they may have more than one meaning, more than one spelling, and more than one pronunciation. There is a depth of work here that makes it possible to interest and challenge able students.

3. The study of word relationships and meaning enrichment. Most commonly thought of in this connection are the exercises dealing with synonyms, antonyms, and homonyms. By the time they reach high school many students have developed such a routine approach to these exercises that their effectiveness is minimized. A variety of activities, such as the following, have been found useful in stimulating interest in word meanings:

   a. Use pictures to define concepts and to show shades and variety of meaning.

   b. Dramatize words and incidents.

   c. Classify words in a story or selection into groups. Point out the dangers of and avoid the use of "weary" words (*very, pretty,*

get, glad) and words that are used with no respect for their proper meaning (*swell, nice, cute*).

d. Keep a vocabulary notebook.

e. Remember that vocabulary is personal. Students should be encouraged to recognize the uniqueness of their vocabularies and should be helped to expand them.

f. Especially in connection with synonyms, discriminate between words of nearly the same meaning: for example, Paul Bunyan was a *large* man. The dictionary gives as synonyms *bulky, ample, plentiful, copious, liberal, big.* Some fit this context, others do not. Pupils need help in developing an understanding of shades of meaning and use of words appropriate to the context in which they are used.

4. The study of picturesque word development and use. Because of their development and use, many words possess color and interest to students that teachers might well exploit. Why did the word *cup* originally mean head? Why is *lunatic* derived from the Latin word for moon? Why is *December,* the twelfth month, derived from the root for ten? Slang, idioms, and figurative language would be areas in which picturesque use of language could be studied.

5. The use of new words in speaking and writing. How a student uses his growing vocabulary becomes the real test of his development and is certainly part of the total program.

Mastery of Word Forms

Even after years of reading instruction a sizable number of high-school students need continued refinement in their use of word recognition and analysis technics. Skill in this area should never be belittled. Overemphasis on word recognition may result in readers who are word callers and low comprehenders. Neglect of word recognition technics, on the other hand, makes it difficult to develop independent readers and may result in students who are severely handicapped in their reading. A balanced program that recognizes the importance of both the mastery of the word form and meaningful reading must be developed.

Modern programs of word recognition are quite different from the mechanistic approaches employed in the alphabet, spelling, phonetic, and early word methods used in the teaching of reading. Today children start by building a sight vocabulary out of which they eventually develop skill in a variety of recognition and analysis technics. The strengths of the various earlier methods are used to assist this development. As an extensive sight vocabulary is built, the student must be helped to develop skill in using

the following aids to word recognition: meaning or context clues, picture clues, general form and configuration clues, phonetic elements, structural elements (e.g., syllables, roots, and variants), and dictionary skills.

In working with high-school students who need help with word recognition and analysis, it would be well to remember:

1. That since meaning is an essential part of recognition, the most effective clue to recognition is meaning or context. As more detailed analysis of a word is required, over-all efficiency of reading decreases. Therefore, making readers *meaning conscious* is as much a part of word recognition as it is of comprehension.
2. That the student with difficulty in recognition and analysis needs help in discovering and effectively using his best approach to words. For some this will be largely visual; for others, phonetic; and for still others, kinesthetic.
3. That there is no single method of word recognition that will lead the reader to mastery of word forms. In spite of the enthusiastic claims of some authors, the panacea, if there is one, is yet to be found. The impression that once a child is able to "sound it out" he is able to master words effectively in contextual reading is misleading to say the least. In fact, reading clinics report that too much emphasis on "sounding out" or making a detailed analysis of words is a major cause for difficulty in reading in the upper grades and in high school. What the reader actually needs is to develop an insight into words, their structure and organization, so that he uses the most appropriate technics for the situation in which he encounters an unknown word. That may be primarily context clues in one situation and analysis of structure in another. Most often an unknown word will require the use of more than one recognition or analysis technic. Some students will need help in developing the use of a variety of technics of recognition. Others will need help in blending or making a unit of words once they are analyzed.
4. That care should be taken that the help given today does not prove a hindrance tomorrow. Some of the highly mechanical phonetic systems show excellent results in building skill with monosyllabic words in lists but later prove to be a hindrance when polysyllabic words are encountered in context.

Better Thinking

The very purpose of reading is to exchange thought which must of necessity involve the use of thinking skills on the part of the reader. If critics of the schools wanted to make more valid criticisms concerning the reading abilities of today's youth, they

could well pay more attention to the skills involving the creative use of thinking than to the mechanics. The mechanics is more obvious, the thought more subtle, and as a result even experienced teachers might be misled by the student who handles the mechanics glibly while understanding only a fraction of what an author tries to tell him. Fortunately students can be guided into developing better thinking habits when they read. Involved are a number of interrelated problems:

1. *The problem of literal comprehension.* To understand what an author has to say, the reader must build the meaning structure for the passage he is reading. He must understand the meanings of words, phrases, sentences, and longer sections. The basic problem is to extend meaning to the entire context.

The instructional job is complicated because there are a number of factors to which instruction must be adjusted that may limit the reader's ability to comprehend. For example, a given selection may be beyond a student's mental level, he may not have sufficient background to read a particular topic with understanding, or his mechanics of reading may be so faulty that his comprehension suffers.

The improvement of comprehension seems to center about the purposes set for reading and the nature of the teacher's questions. Questions that take the reader only to the finding of a specific fact, a general impression, or the main idea will not take the student very far. Instruction should include technics that directly attack the basic problem of understanding the ideas read in their proper relationships. Seeing ideas and their relationships will serve as a significant factor in understanding the content of different subject areas. For example, time and cause and effect relationships will be basic in history; place and general-specific relationships are essential in geography. Summarizing and organizing ideas, reviewing the bases for relating ideas, and working with various types of sensory imagery are instructional activities that have proved useful in developing power in comprehension. Because words about words are often at the root of poor understanding, the background for high-level comprehension calls for concrete experience, either direct or vicarious, thru models, slides, films, pictures, specimens, field trips, and the like.

2. *The problem of critical interpretation.* A free man must learn not only to comprehend but also to react critically to what he reads. To do this he needs a questioning attitude, an extensive background of information, and skills in logical analysis. Judgment or reaction demands criteria against which to make comparisons. These are to be found eventually in each person's basic values and beliefs. Interpretation is of necessity personal, therefore, and, where basic values and beliefs differ widely, interpretations will also differ.

There is no quick and easy road to increased ability in critical interpretation. Instruction in critical thinking starts when the child first enters school and is of concern thruout his school experience. At the secondary level, critical reading should be carried out with a wide variety of authors, materials, and topics, with much of the material current. There is a gap between the critical interpretation of the poetry of Poe or Milton and the critical reading of today's newspapers and magazines.

In organizing instruction to develop skill in this area, two basic approaches have been found useful: first, that of applying the steps of logical analysis to a given selection, and second, attempting to reconcile different points of view on a given topic or problem. Among the essential skills that may be developed with either process are: judging relevance of information; recognizing an author's purposes, biases, and competence; a growing awareness of one's own prejudices; determining what is applied and supplying logical analyses of the author's line of reasoning. High-school youth should have an opportunity to test these skills on more than the critical reading of a story or poem or book. Deliberate attempts to face controversial issues, which would necessitate the critical consideration of a variety of sources, is essential to the development of higher-level critical thinking.

3. *The problem of adjusting nature of reading to purpose.* There is no single best way for a person to read. Rather, how one reads should be structured to a large degree by the purpose for which he reads. Flexibility in adjusting one's reading to purpose is one of the most obvious characteristics of the mature reader. Some of the most spectacular growth in the reading of high-school students reported by both reading clinics and class-

room teachers has been the direct result of instruction emphasizing this ability. The clue to whether a reader is flexible is found in a different rate of reading for different purposes. Among the instructional guides found useful are: setting purposes for all reading, showing how the same selection can be read for different purposes, showing how different types of material can be read for the same purpose, and helping students determine their own purposes for reading.

4. *The problem of increasing comprehension thru improved study technics.* Study is personal and calls for effort on the part of the individual. Hence, mastery of self as well as skill in locating, handling, and organizing materials and information is an important goal of the reading program. No matter how intelligent a student might be, if he does not establish good work habits, his accomplishments will be limited. When looking at the reading comprehension of one's students, it might be well to consider whether a student is being handicapped by such things as not using time wisely or being too easily distracted.

Independence in study also calls for cleverness in locating and using materials. The general principles for understanding the format of materials, for using references, and for making use of the library organization could all be made part of the basal reading program. The major application of these skills is generally found in the content areas. The evidence is quite clear that better learning results when the work in content areas is used for the "situations" in which these basic skills are applied than when reading books or workbooks are used for this purpose. This, of course, implies a program in the social studies and the various sciences that will cause students to use the library and a wide variety of materials. Also implied is that the content teachers will guide the development of their students in these areas. If these conditions are not present, the basal program must assume responsibility for teaching these skills as best it can.

Faster Readers

No absolute answer of words per minute can be given to the question: How fast should tenth-graders read? The day of determining average reading rates for various age groups as cri-

teria of achievement is over. Research is consistent in showing, however, that for most high-school students this question can be answered as "considerably faster than they now read." A number of people have demonstrated that the typical reader can increase his speed from 20 to 25 percent without loss of comprehension. This fact alone ought to justify including work with reading rate in the high-school reading program.

How this is to be done, however, constitutes one of the most controversial questions in reading at the present time. The proponents of increasing speed thru motivated reading and the proponents of reading controlled by machines or devices can each cite experimental evidence to support their points of view. When making the decision as to which approach to take, the following points would be worth consideration:

1. There appears to be no clear-cut evidence of the superiority of one approach over the other.
2. The tachistoscope, accelerators, and films have a motivational value that might be highly significant for some students.
3. Machines are expensive. The purchase of other reading materials might be a wiser use of money.
4. The effects of most machines can be duplicated with homemade devices costing little or nothing.
5. Some machines restrict the nature of the material used to the point where the reading may become artificial and unrealistic.
6. Reading more as well as faster is a desirable goal for any speed program. There is some evidence that this goal is more easily reached thru motivated reading.

Oral Interpretation

Studies that compare the relative use made of silent and oral reading can be misleading. Invariably oral reading constitutes only a small fraction of the reading the typical person engages in. Because of this some writers have argued that oral reading is relatively unimportant and does not merit much attention in the reading program. The person who finds himself in an oral reading situation often thinks quite differently, however. Recent comparisons of the reading abilities of young people today with those of past generations indicate that today's youth are poorer oral readers in spite of increased abilities in silent reading. It

appears that need for skill in this area is becoming necessary for an increasing number of people. Because of its importance to the student, a developmental reading program could hardly be considered complete without instruction in oral reading.

The basic program ought to be concerned with building competency in both oral sight reading and in interpretative oral reading for which the reader has an opportunity to prepare. These situations may be so emotionally charged for the adolescent with his needs for recognition and security that the teacher must be extremely careful in how he handles them. Careful selection of materials, a prepared reader, an audience that has a purpose for listening, and an understanding teacher would all be necessary ingredients. For some students readiness for this type of activity will involve developing poise in speaking in small groups and a gradual working into some of the more formal oral reading situations. Recorders and the other electronic devices coming into classrooms have been used to good advantage by many teachers.

Summarizing the Developmental Program

A developmental reading program makes a significant contribution to the growth of high-school students in this vital skill area. For best results it should be an organized program. Included would be developing positive attitudes toward reading and directing growth in vocabulary, mastery of word forms, all phases of comprehension and interpretation, speed of reading, and oral reading.

THE PROGRAM IN THE CONTENT AREAS

From the point of view of a person concerned with reading, the work in the content areas serves the function of an apprenticeship. Now the student puts to use his tools for learning and develops finesse in their application. Goals in any area ought then to include the skills involved in learning as well as the attitudes and information learned. Calling a social studies or a science teacher a reading teacher does not mean that he carries the responsibility for teaching the basic reading skills, but rather that

he is concerned with these skills as they are applied in his particular area.

Common Elements

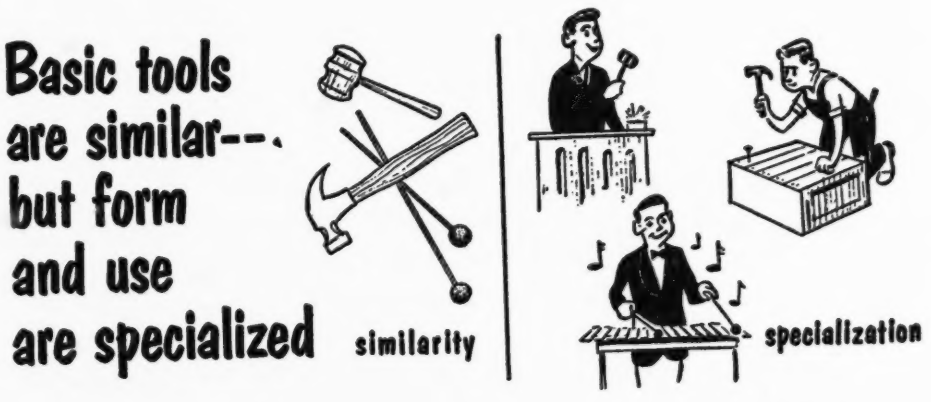
The evidence is ample in all subjects, that literature, mathematics, science, and social studies students can be helped to achieve more *if* instruction includes giving attention to the reading and study skills used. Investigators have clearly shown that the nature of reading in one area may differ radically from that in another. So much so in fact, that ability to read well the material of one subject may not be a good predictor of ability to read well in other subjects. The following general conclusions can be drawn from the studies in this area:

1. Good reading, good study, and high achievement in any subject area are dependent to a large degree upon the interest a teacher is able to generate. Enthusiastic, understanding, and positive teaching is a first prerequisite to success in any content area.
2. Instruction in reading skills is most effective when directly related to the work being carried on in the content field in which improvement is desired. Ideally as topics are studied in science or social studies or any other area, the problems of reading the appropriate materials would be dealt with.
3. There are unique comprehension problems in the various areas for which special attention is needed.
4. The body of basic ideas and the way of organizing these ideas in a given area should be developed. Knowledge in any field is certainly more than the mere collection of information. Egypt, for example, is more than the Nile, Cairo, the Suez, and the pyramids. These facts are all interrelated to such an extent that real understanding can be based only upon the further knowledge of how these facts fit together. There is some evidence that summary textbooks may foster neglect of these abilities.
5. Word meanings are a major block to successful content reading. It is quite revealing to ask students to define some of the basic terms for the topic being studied. Terminology is so much a part of the teacher's background that he is often guilty of assuming that word meanings are obvious and consequently ignores them in his instruction.
6. Materials are a source of difficulty for the following reasons: (a) fact and concept load are often unduly heavy; (b) format variations from area to area lead to confusion; (c) materials in the content areas are often uninteresting and unappealing; (d) the readability of content materials is often significantly harder than students can handle with

ease; and (e) authors of content books often assume greater background than the typical student possesses. The recent emphasis on more readable writing should result in more effective materials. The problem of fitting materials to the abilities and interests of students will remain, however, a major instructional problem.

7. Extensive reading makes a valuable contribution to learning in the content areas. No matter how thoroly a diet of bones (a summary text) is picked clean, students tend to remain poorly nourished. Wide reading provides the flesh from which the "hard muscle" of understanding is built.

8. The nature of the assignment is a significant factor in determining the quality of learning. Care should be taken to raise significant questions, to give direction to the use of material, and to help students arrive at purposes that are real to them.



Reading in Mathematics

Algebra and geometry may appear to be far removed from reading. However, an analysis of materials and learning difficulties shows that skill in reading is very much a part of the work in these areas. Mathematics has its technical vocabulary. These words are often the clue to the proper process to be used in problem-solving. Faulty vocabulary results in faulty applications. Abbreviations, symbols, and the form for recording problems are another source of error and demand reading competence. For example, the simple changing of the problem $\begin{array}{r} 213 \\ \times\ 65 \\ \hline \end{array}$ to: 213 times 65 = ? results in a change of difficulty of the problem for large numbers of students. More obvious are the reading problems

encountered in mathematics problem-solving exercises. Comprehension skills found helpful in problem-solving include: noting detail, appreciating general significance, following precise directions, noting relevance, and rejecting irrelevance.

Reading in Social Studies

Analysis of social studies materials reveals that they tend to be loaded with reading problems. Basic concepts are presented at too fast a pace in an unrelated and sketchy way to students who often lack the richness of experience to make sense out of them. This may well be the major reason for the intense dislike so many students express for social studies. Extensive reading has been widely recommended as at least a partial solution. There is also a need for a sensible restriction in the number of topics to be studied. Experimentation reveals that limiting the number of topics and considering them more thoroly results in greater total achievement than if no such adjustment is made.

Vocabulary, too, causes trouble. The names of people, places, and events fill the pages of social studies texts. As if to add insult to injury a large proportion are derived from other languages and this adds to the problem of pronouncing and learning them.

Materials call for skill in a variety of reading study technics. Much of the success in experimental studies has been related to special work in map reading; reading of charts, graphs, and tables; use of reference books, indexes, and dictionaries; and skill in locating, organizing, and using information.

Reading in Science

As with social studies, experimenters found that special instruction should center in vocabulary, symbols, abbreviations, study skills, and comprehension skills. Particularly important among the comprehension skills are the ability to note detail, to follow directions, and to relate relevant items. Much of the reading of both science and mathematics demands attention to details and is, therefore, slow and meticulous. At times each word may be of high significance. Rapid reading that is so helpful with literary and social studies material may actually be detrimental for much of the reading in these areas.

Reading in Literature

If the basic goals in teaching literature are to develop and maintain an interest in and a taste for the various types of literary writing, reading of literature should be concerned with helping students form the sensory impressions that help them relive what they read. At the high-school level there is little place for the minute dissecting of the personal life of an author and his works. In a literature class, reading should be done for appreciation and for enjoyment. This has strong implications for the selection of materials. A literature teacher might profitably review the research findings on the reading interests of young people. Wide reading can be encouraged thru making an extensive collection of materials available. The reports of the various book clubs for young people are very encouraging and indicate that literature teachers are taking advantage of these inexpensive sources of good materials. The more able teen-agers are challenged by adult books, and this opens the door to all of man's writing for them. This broader approach to materials also seems to be the most practical way to get the reluctant reader to start reading.

THE REMEDIAL PROGRAM

Since a larger proportion of young people are in high school today, secondary-school classroom teachers are confronted by an increased number of students with limited ability in reading. The problem, however, has two quite different aspects. Because of limited potentials some of these students are reading as well as they are able, but they are in over their heads in the academic subjects. They need a special program that is adjusted to their interests and limitations. Other students are retarded in reading and would benefit from special help with their reading problems. Why these students are so handicapped is not always easy to discover. Factors within the person, the home, the school, and the community all may be related. If every child could have the benefit of a good developmental program thruout his schooling, the number with difficulties would be drastically reduced. However, the fact remains that these students are in high school and that they can be helped. The literacy training programs of the armed services give ample evidence of this.

How remedial services are organized depends upon such factors as the size of the school, the capabilities of the students, and the availability of staff. Many different approaches are described in the professional literature. The following suggestions are appropriate if remedial services are organized on a class basis:

1. Remedial work should not be added to an already full program. It might logically be substituted for some of the work in the regular English program and would appropriately carry regular credit.
2. Classes should meet during regular hours and not during activity periods nor after school.
3. While the length of the course may vary from one student to another, attendance while assigned to the program should be compulsory.
4. The language arts are so interrelated that a student who is a poor reader will almost invariably have difficulty with other language areas. The program should be concerned with the entire language area.
5. Classes should be kept small with 10 students about the optimum size. The goal of individualized instruction is lost if the number gets much larger.
6. The work of the remedial classes ought to be related as much as possible to the rest of the student's program.
7. Selection should be based on evidence of higher potential than achievement, teacher recommendation, and the student's desire to be helped.

Clinical diagnosis and treatment are beyond the means of most high schools altho these services would be appropriate for large school systems or groups of small systems.

APPRAISAL

Concern with reading usually results in a number of basic questions being raised in relation to the students' abilities to read: How well should they read? How well do they read? What do they read? What is the nature of the reading of those who have trouble? Are there factors that are holding some of them back? All these questions are concerned directly with the students and their progress. Other questions could be asked concerning the program and its organization, the nature of instruction, and the materials. Appraisal of the total program should include all its aspects.

Appraisal of student progress has been based primarily upon the results of standardized reading tests. Limitations in reading

tests have been pointed out to the extent that serious questions have been raised concerning whether many of them really measure basic reading skills. To date, reading is much more than any test constructor has been able to reduce to the form of a standardized test.

Because this is true, more attention is being directed toward informal technics of appraisal such as systematic observation, interviews, interest inventories of various kinds, autobiographies, and detailed studies of silent and oral reading habits. When incorporated as a definite part of the reading program, appraisal becomes one of the keys to a continually improving program.

TEACHER EDUCATION

An analysis of the catalogs of teacher education institutions reveals that very few offer courses specifically designed for educating teachers in the technics of teaching reading. This remains true in spite of the evidence of the importance of reading in the total school program. Furthermore, when surveys are made concerning the factors teachers feel are basic for improving instruction, the need for help with reading is invariably found as a major concern.

A discussion concerned with high-school reading could hardly be complete without pointing out the serious need for more adequately preparing teachers in this skill area. Until teachers can approach instruction with insight into the "reading problem" and with a degree of confidence as to how to proceed, high-school reading programs will probably remain relatively ineffective. Is it not time to stop playing ostrich? Colleges and universities can no longer pretend that no problem exists by the simple process of ignoring it.

Altho preservice, inservice, and graduate programs all have their place in a total attack on the problem, the preservice is probably the most significant at the present time. An understanding of the role of reading in modern life, familiarity with materials, an understanding of the nature of reading as a psychological process, the application of reading skills to the material of a given content area, and an appreciation of the factors which contribute to reading difficulties and success are but a few of the basic under-

standings concerning reading *every* secondary-school teacher ought to possess.

At the graduate level particular attention ought to be paid to those who want to specialize in teaching either the developmental or the remedial programs. Inservice activities have the merit of bringing the thoughtful attention of the entire staff to the problems of their particular school. Many of the reading programs described in the literature were an outgrowth of the inservice study activities of a school staff.

PROBLEMS FOR FURTHER STUDY

1. *What are the most effective approaches to flexible reading?* As was pointed out, this question is a controversial one at the present time. More study is needed concerning the relative merits of the two approaches most widely used—the controlled and the motivated programs. Perhaps some combination of the two methods has merits that should be investigated.

2. *How can the thinking patterns involved in different content areas be developed?* It is assumed that different patterns of thinking are related to success in the different content areas. How one thinks in geography is different from how one thinks in history. More insight is needed into the significance of this for content selection and for instruction in the various content areas.

3. *What are the most effective approaches to appraising the reading needs and growth of students?* A number of research people have questioned the appropriateness of the typical reading tests in current use. Little progress has been made in evaluating critical and interpretative reading. Comprehension and rate are intimately interrelated; nevertheless, appraisal technics either ignore or oversimplify this relationship.

4. *How can high-school programs and classes be organized to meet the varying needs of students more adequately?* It has been clearly demonstrated that the best schools are concerned with and do something for individual students. High schools have traditionally followed a pattern of organization that is rather rigid

in relation to students. More experimentation in organization of programs would be appropriate at the secondary level.

5. *How should the responsibility for the reading program be assigned?* Should basic reading instruction be a part of the English program or should classes specifically concerned with reading be organized? Who assumes responsibility for the development of given skills?

6. *How can the reluctant reader be stirred to life?* Needed is more insight into the problems of motivation and a clearer understanding of the effects of the competitive factors such as TV, extracurriculum activities, and club programs away from school.

See Selected Research References on page 32.

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